

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET

(pursuant to NAC 445A.236)

Applicant: Nevada Environmental Response Trust
Le Petomane XXVII, Inc., Not individually but solely as the Designated
Nevada Environmental Trust Trustee
35 East Wacker Drive, Suite 1550
Chicago, Illinois 60611

Permit Number: NV0023060

Physical Address: Black Mountain Industrial Complex
560 W. Lake Mead Pkwy.
Henderson, Clark County, NV 89015
Latitude: 36° 02' 35.4" N Longitude: 114° 59' 58.7" W
Section 12, T22S, R62E MDB&M

Discharge Outfall: Outfall 001: Las Vegas Wash
Latitude: 36° 05' 15" N Longitude: 114° 59' 30" W

General: Permit NV0023060 was originally issued on August 7, 2000 to Kerr-McGee Chemical LLC, a forerunner of Tronox LLC. During subsequent permitting cycles for Permit NV0023060, Tronox LLC discharged treated groundwater, extracted for remediation purposes at their industrial site in the Black Mountain Industrial (BMI) Complex (subsequently renamed the Black Mountain Industrial Complex), Henderson, Clark County, Nevada, to the Las Vegas Wash. Tronox installed and operated two treatment systems: an ion exchange treatment system to remove chromium, and a Fluidized Bed Reactor (FBR) biological treatment system to remove perchlorate.

On January 12, 2009, Tronox Incorporated and 14 of its affiliates, (collectively Tronox), filed petitions under Chapter 11 of the Bankruptcy Code. Pursuant to its joint plan of reorganization, Tronox entered into an environmental settlement agreement and related agreements by which Tronox transferred all of its right, title, and interest to its property located at 560 West Lake Mead Parkway to the Nevada Environmental Response Trust (Trust). This transfer included, but was not limited to, the remediation treatment facility. The transfer became effective February 14, 2011. Permits associated with the remediation system, including Permit NV0023060, were transferred to the Trust at that time.

Flow: 1.45 MGD, 30-Day Average; 1.75 MGD, Daily Maximum.

Corrective Actions Sites: The facility is within the Basic Management Complex Area of Concern, a Bureau of Corrective Actions remediation site.

Well Head and Drinking Water Supply Protection: The treatment facility and the discharge location at the Las Vegas Wash are not within a Drinking Water Protection Area (DWPA) around any public water supply well. A Wellhead Protection Area (WHPA) has not been established for this location.

Discharge Flow and Characteristics: During the period from January 2006 through

December 2010, the following selected discharge characteristics demonstrating effective treatment were reported in the quarterly Discharge Monitoring Reports:

Parameter		Permit Limit	Average	Maximum	Minimum	# of Exceedances
Flow	30-Day Avg (MGD)	1.45	1.36	1.43	1.2	0
	Daily Maximum (MGD)	1.75	1.40	1.53	1.24	0
Biochemical Oxygen Demand	30-Day Average (mg/L)	25	5.17	23	1.5	0
	7-Day Average (mg/L)	40	10.8	60	1.5	1
	30-Day Average (lbs/day)	254	57.8	254.4	15.5	1
Perchlorate	30-Day Avg (µg/L)	18	4.65	12.4	0.51	0
	30-Day Average (lbs/day)	0.22	0.05	0.14	0.01	0
pH	Standard Units	6.5-9.0	7.05	8.1	6.3	2
Total Suspended Solids	30-Day Average (mg/L)	135	19.8	59.4	10.25	0
	30-Day Average (lbs/day)	1634	224.3	706.1	106.5	0
Chromium (VI)	7-Day Average (µg/l)	10	<0.05	<0.05	<0.05	0
Total Chromium	7-Day Average (µg/l)	100	21.1	71	5	0
Total Iron	30-Day Average (mg/L)	10	2.02	4.78	0.18	0
	30-Day Average (lbs/day)	121.03	22.66	54.91	1.91	0
Manganese	30-Day Average (mg/L)	5	0.95	1.7	0.46	0
	30-Day Average (lbs/day)	60.52	10.87	19.49	5.26	0
Total Phosphorus	30-Day Average (lbs/day)	20	6.15	20.53	0.41	1
Total Ammonia as N, 30-Day Average (lbs/day)		40	9.98	27.2	0.29	0
Total Inorganic Nitrogen, 7-Day Average (mg/L)		M&R	3.62	27	0.1	NA
Total Dissolved Solids (mg/L)		M&R	6540	8100	5590	NA
DO, 7-Day Average (mg/L)		M&R	7.03	11.2	4.31	NA
Nitrate (mg/L)		M&R	1.71	5.65	<0.1	NA

lbs/day: pounds per day
mg/L: milligrams per liter

M&R: Monitor & Report
µg/L: micrograms per liter

Receiving Water Characteristics: The receiving water for Outfall 001 is the Las Vegas Wash, with reach designated from Telephone Line Road to the confluence of discharges from the City of Las Vegas and the Clark County Wastewater Treatment Facilities. Beneficial uses for this reach of the Las Vegas Wash are listed in NAC 445A.198. Water quality standards for the specified reach of the Wash are listed in NAC 445A.199. The requirements to maintain existing higher quality waters apply.

Proposed Discharge Limitations and Special Conditions: Discharge samples and measurements taken in compliance with the monitoring requirements specified in Table 1 shall be taken after treatment and prior to the confluence with the Las Vegas Wash, at the locations specified below:

- a. **INF** = influent at the intake to the treatment train;
- b. **EFF** = effluent from treatment systems prior to discharge to Outfall 001; and,
- c. **LW0.55** = (previously LM-6, also known as North Shore Road) located in the Las Vegas Wash, 0.55 mile upstream of the confluence of the Las Vegas Wash with Lake Mead.

The discharge shall be limited and monitored by the Permittee as specified in Table 1.

Table 1. Effluent Discharge Limitations, Sampling and Monitoring Requirements

Parameters	Units	Discharge Limitations			Monitoring Requirements			
		30-Day Average	Daily Maximum	30-Day Avg Load (lbs)	Sampling Locations	Monitoring Frequency	Monitoring Type	
Flow Rate	MGD	1.45	1.75	---	EFF	Continuous	Flow meter	
BOD ₅ (inhibited)	mg/l	M&R	M&R	M&R	INF	Weekly	Discrete	
		25	40	254	EFF			
Perchlorate	µg/l	M&R	M&R	M&R	INF	Daily discrete samples composited weekly		
		18	M&R	0.22	EFF			
pH	S.U.	6.5 to 9.0	---	---	EFF	Weekly	Discrete	
Hexavalent Chromium	mg/l	M&R	M&R	M&R	INF	Weekly	Discrete	
		M&R	0.01	M&R	EFF			
Total Chromium	mg/l	M&R	M&R	M&R	INF	Weekly	Discrete	
		M&R	0.1	M&R	EFF			
TSS	mg/l	135	M&R	1,634	EFF	Weekly	Discrete	
Total Iron	mg/l	10	M&R	121.03	EFF	Weekly	Discrete	
Manganese	mg/l	5	---	60.52	EFF	Quarterly	Discrete	
Total Phosphorus as P	mg/l	M&R	M&R	M&R	INF	Weekly	Discrete	
		M&R	M&R	20 *	EFF			
		* If the load in the Wash exceeds 434 ppd from 03/01-10/31, the Permittee shall negotiate an IWLA, or other approved method which ensures the WQS will be met.				LW0.55	Twice per month	Discrete
Total Ammonia as N	mg/l	M&R	M&R	40 **	EFF	Weekly	Discrete	
		** If the load in the Wash exceeds				LW0.55	Twice per	Discrete

		970 ppd from 04/01-09/30, the Permittee shall negotiate an IWLA, or other approved method which ensures the WQS will be met.				month	
Priority Pollutants (Attachment A)	mg/l or lbs	The Permittee shall demonstrate no increase in concentration or loading of "other" constituents as a result of discharge. The Permittee shall only be responsible for utilizing results which are > PQL. However, all data above MDL shall be reported.			EFF	Quarterly	Discrete
Color	ACU	M&R	M&R	---	INF	Weekly	Discrete
		M&R	M&R	---	EFF		
DO	mg/l	M&R	M&R	M&R	EFF	Weekly	Discrete
TIN as N	mg/l	M&R	M&R	M&R	INF	Weekly	Discrete
		M&R	M&R	M&R	EFF		
Kjeldahl Nitrogen as N	mg/l	M&R	M&R	M&R	INF	Weekly	Discrete
		M&R	M&R	M&R	EFF		
Nitrate as N	mg/l	M&R	---	M&R	EFF	Monthly	Discrete
Chlorate	mg/l	M&R	---	M&R	INF	Monthly	Discrete
		M&R	---	M&R	EFF		
Sulfate	mg/l	M&R	---	M&R	INF	Monthly	Discrete
		M&R	---	M&R	EFF		
Sulfide	mg/l	M&R	---	M&R	INF	Monthly	Discrete
		M&R	---	M&R	EFF		
TDS	mg/l	M&R	---	M&R	INF	Quarterly	Discrete
		M&R	---	M&R	EFF		
O&G	mg/l	M&R	---	M&R	EFF	Quarterly	Discrete
Boron	mg/l	M&R	---	M&R	EFF	Quarterly	Discrete
Chloride	mg/l	M&R	---	M&R	INF	Quarterly	Discrete
		M&R	---	M&R	EFF		
Acute WET		See permit condition I.A.22.			EFF	Monthly	Discrete

Definitions:

MGD: million gallons per day

M&R: Monitor and Report

μg/l: micrograms per liter

TSS: Total Suspended Solids

ppd: pounds per day

WQS: water quality standards

PQL: Practical Quantification Limit

ACU: Apparent Color Units

DO: Dissolved Oxygen

O&G: Oil and Gas

WET: Whole Effluent Toxicity

BOD₅: 5-day biological oxygen demand

mg/l: milligrams per liter

S.U.: Standard pH units

as P: As phosphorus

IWLA: Individual Waste Load Allocation

as N: As nitrogen

MDL: Method Detection Limit

TIN: Total Inorganic Nitrogen

TDS: Total Dissolved Solids

Σ: summation symbol

In-Stream Limitations and Background Monitoring Requirements: The permit requires background groundwater monitoring and monitoring in the Las Vegas Wash from just upstream of Outfall 001 to the Las Vegas Wash control point identified as LW5.5. Compliance is determined at the LW5.5 control point. The discharge is to be limited to maintain compliance with the downstream limits listed in Table 2.

Samples and measurements taken in compliance with the monitoring requirements specified in Table 2 shall be taken prior to discharge at Outfall 001, at the following locations:

- a. **UP** = upstream sampling location 150 feet upstream of Outfall 001 to the Wash;
- b. **LW6.05** = upstream sampling location in the Las Vegas Wash at LW6.05, 6.05 miles upstream of the confluence of the Las Vegas Wash with Lake Mead;
- c. **LW5.5** = downstream sampling location in the Las Vegas Wash at LW5.5, 5.5 miles upstream of the confluence of the Las Vegas Wash with Lake Mead; and,
- d. **UPMW** = background sampling location at the up-gradient groundwater monitoring well at the NERT facility.

Table 2. Background and In-Stream Limitations, Sampling and Monitoring Requirements

Parameters	Units	Downstream Action Thresholds apply at LW5.5		Sampling/Monitoring Requirements		
		30-Day Average	Daily Maximum	Sampling Locations	Monitoring Frequency	Monitoring Type *
TDS	mg/l	2,400	M&R	LW5.5	Quarterly	Discrete
		M&R	M&R	UP, LW6.05, UPMW		
TIN	mg/l	17	M&R	LW5.5	Twice per month	Discrete
		M&R	M&R	UP, LW6.05, UPMW	Quarterly	Discrete
Color	ACU	M&R	M&R	UP, LW6.05, LW5.5	Quarterly	Discrete
Total Iron	mg/l	M&R	M&R	UP, LW6.05, LW5.5, UPMW	Quarterly	Discrete
Manganese	mg/l	M&R	M&R	UP, LW6.05, LW5.5, UPMW	Quarterly	Discrete
Chromium	mg/l	M&R	M&R	UP, LW6.05, LW5.5, UPMW	Quarterly	Discrete
Boron	mg/l	M&R	M&R	UP, LW6.05, LW5.5, UPMW	Quarterly	Discrete
Chloride	mg/l	M&R	M&R	UP, LW6.05, LW5.5, UPMW	Quarterly	Discrete
Priority Pollutants		M&R	M&R	UP, LW6.05, LW5.5	Annually	Discrete

* Permittee may composite LV Wash samples upon receiving Division approval of a sampling plan.

Rationale for Permit Requirements: The monitoring requirements and permit limits in Tables 1 and 2 have been established to ensure that the Las Vegas Wash is not degraded from the discharge of treated groundwater. The requirements are consistent with similar groundwater remediation system discharge permits. Individual parameters are discussed below.

Discharge Limitations:

Flow: Flow limitations for this permit are based on the design capacity of the treatment system. The limits have been retained from the previous permit.

BOD₅: Limits set at standards of secondary treatment, pursuant to 40 CFR §133.102. The limits have been retained from the previous permit.

Perchlorate: Based on the December 2008 USEPA “Interim Drinking Water Health Advisory for Perchlorate”, statistical review of all data collected since the remediation system started up, and Best Professional Judgment (BPJ) criteria, NDEP has set the perchlorate permit limit at 18 µg/L for the 30-Day Average. The 30-Day average was used to calculate the load limit in pounds per day. The limits have been retained from the previous permit. NDEP intends to retain the current limits until the EPA promulgates a water quality standard for perchlorate.

pH: Limited pursuant to NAC 445A.199. Limits are retained from previous permit.

Hexavalent Chromium: Limited pursuant to USEPA “National Recommended Water Quality Criteria”, Criterion Continuous Concentration (CCC, the chronic water quality criteria) as protective of aquatic life. The limit has been retained from the previous permit.

Total Chromium: Limited pursuant to NAC 445A.144. “Standards for Toxic Materials Applicable to Designated Waters”. The limit has been retained from the previous permit.

Total Suspended Solids: Limited pursuant to NAC 445A.199. The load limit is based on the water quality standard for this reach of the Wash, and the 30-day average flow limit. The limits are retained from the previous permit.

Total Iron: This permit limit has been retained from the previous permit.

Manganese: This permit limit has been retained from the previous permit.

Phosphorus and Ammonia: Waste Load Allocation (WLA) for Discharges into Las Vegas Wash: The Permittee is authorized to discharge the waste loads listed in Table 1 for Total Phosphorus as P and Total Ammonia as N, to the Las Vegas Wash. This permit condition constitutes a cooperative agreement between the City of Las Vegas, Clark County Water Reclamation District, and City of Henderson, and City of North Las Vegas, to allow discharge flexibility. The permit limits for Phosphorus and Ammonia have been retained from the previous permit.

Attachment A -Priority Pollutants: This attachment to the permit is the full-scan list of Priority Pollutants which are required to be sampled. No limits are imposed; Monitor and Report requirements for all parameters have been retained from the previous permit.

Acute WET Testing: Acute whole effluent toxicity requirement have been imposed to prevent discharges of toxic substances in toxic amounts. No changes are proposed from existing permit requirements.

Las Vegas Wash In-Stream Limitations, applied at LW5.5:

Total Dissolved Solids (TDS): The permit includes the goal of not more than a 400 mg/l increase in TDS over the drinking water supply, a goal established by the Colorado River

Salinity Forum. The Permittee has implemented the salinity public education required by the permit. This activity is a continuing requirement of the proposed permit. The permit limits have been retained from the previous permit.

Total Inorganic Nitrogen (TIN): Permit limit has been retained from the previous permit.

Other parameters (Color, Total Iron, Manganese, Chromium, Boron, Chloride, & Priority Pollutants): No limits are imposed; Monitor and Report requirements for all parameters have been retained from the previous permit.

Elimination of Monitoring Requirements:

The Permittee has requested elimination of the effluent monitoring requirements for the radiological parameters, Radium 226, Radium 228, and Gross Alpha particles. The request is based upon two facts: for the past 6 years, data collected weekly, shows no exceedances of the EPA drinking water rules, and the data is within the range of background concentrations. Based upon reasonable potential analysis, the NDEP proposes to remove the monitoring requirements for the radiological parameters in the renewal permit.

Schedule of Compliance: The Permittee shall implement and comply with the provisions of the schedule of compliance after approval by the Administrator, including in said implementation and compliance, any additions or modifications which the Administrator may make in approving the schedule of compliance.

- a. Upon issuance of this permit, the Permittee shall achieve compliance with discharge limitations as described in this permit and in observance of prescribed schedules of compliance;
- b. **Within 45 days of permit issuance**, the Permittee shall submit to the Division for review and approval an updated Operations & Maintenance (O&M) Manual, prepared in accordance with appropriate sections of Guidance Document WTS-2, "Minimum Information Required for an Operation and Maintenance Manual for a Wastewater Treatment Plant".
- c. **Table I.A.2. Monitoring:** On a quarterly basis, the Permittee shall submit an evaluation of the data collected pursuant to Table 2 at Telephone Line Road in the Las Vegas Wash (LW6.05, previously LW-2).

Within 30 days after the submission of the first quarterly analysis under subsection a. which shows that the 95th percentile of the data collected at Telephone Line Road for a pollutant in Table 2 exceeds an applicable water quality standard for that pollutant and the data show that the discharge authorized by this permit was a significant contributor to such exceedance, the Permittee shall submit a plan to investigate such exceedance. The plan may include a monitoring strategy, an evaluation of the standard and/or the location of the control point, and such other measures as the Permittee deems appropriate. The plan shall include a schedule for the investigation. In developing the plan, the Permittee will seek to work cooperatively with other dischargers to the Las Vegas Wash. The investigation plan

must be approved by the Division.

Upon approval of the investigation plan, the Permittee shall implement the plan, working with other Las Vegas Wash dischargers to the extent reasonably possible. Upon completion of the investigation, the Permittee shall submit a report to the Division with recommendations for future actions.

- d. **Total Dissolved Solids (TDS)** (NAC 445A.143): Nothing in this permit condition shall alleviate the responsibility of other parties under consent agreement to the Bureau of Corrective Action for the groundwater issues at the BMI complex. Any work pertaining to TDS must recognize that the water quality standard for TDS (NAC 445A.199) must be maintained. **Prior to treating and discharging groundwater other than groundwater from the chromium treatment system,** the Permittee shall obtain approval from the Division and shall comply with and report the following information:
 - i. The Permittee shall continue to participate in regional solutions to the TDS issues in the Las Vegas Wash.
 - ii. The Permittee shall submit a quarterly report in accordance with I.B.1. which includes any progress made on reducing the TDS loading to the Wash either in directly reducing the loading to the wash from the discharge or regional projects the Permittee has participated in which reduce the loading off-site in the same watershed.
- e. The Permittee shall fully cooperate in good faith with any persons required by NDEP to treat the discharge subsequent to treatment by the Permittee.

Proposed Determination: The Division has made the tentative determination to renew the permit for a period of five (5) years.

Procedures for Public Comment: The Notice of the Division's intent to issue a renewal NPDES permit for a five-year period, authorizing this facility to discharge into the Las Vegas Wash, subject to the conditions contained within the permit, is being sent to the **Las Vegas Review-Journal** for publication. The Notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of thirty (30) days following the date of publication of the public notice in the newspaper. The comment period can be extended at the discretion of the Administrator. The deadline date and time by which all comments are to be submitted (via postmarked mail or time-stamped faxes, e-mails, or hand-delivered items) to the Division is **December 4, 2011 by 5:00 P.M.**

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator or any interested agency, person or group of persons. The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the

geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Prepared by: Jeryl R. Gardner, P.E.

Date: October, 2011

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